WHAT IS CLAIMED IS:

1. A human embryonic kidney cell comprising at least one heterologous nucleic acid sequence which upon expression produces at least one non-adenoviral gene product that complements in *trans* for a deficiency in at least one essential gene function of one or more regions of an adenoviral genome selected from the group consisting of the E1, E2A, and E4 regions so as to propagate a replication-deficient adenoviral vector comprising an adenoviral genome deficient in the at least one essential gene function of the E1, E2A, and/or E4 regions when present in the human embryonic kidney cell.

2. The human embryonic kidney cell of claim 1, wherein at least one non-adenoviral gene product complements in *trans* for a deficiency in the E1A region of an adenoviral genome.

3. The human embryonic kidney cell of claim 1, wherein at least one non-adenoviral gene product complements in *trans* for a deficiency in the E4 region of an adenoviral genome.

4. The human embryonic kidney cell of claim 3, wherein at least one non-adenoviral gene product complements in *trans* for a deficiency in E4-ORF6 of an adenoviral genome.

5. The human embryonic kidney cell of claim 1, wherein at least one non-adenoviral gene product is a viral protein.

6. The human embryonic kidney cell of claim 1, wherein at least one non-adenoviral gene product is a cellular protein.

7. The human embryonic kidney cell of claim 1, wherein the human embryonic kidney cell further comprises a heterologous nucleic acid sequence which upon expression produces a non-adenoviral gene product that enhances propagation of the replication-deficient adenoviral vector, so as to produce more replication-deficient adenoviral vectors when the heterologous nucleic acid sequence is present in the human embryonic kidney cell than when it is absent from the human embryonic kidney cell.

8. The human embryonic kidney cell of claim 1, which is a 293 cell.

9. A method of propagating a replication-deficient adenoviral vector, which method comprises:

(a) providing the human embryonic kidney cell of claim 1,

(b) introducing a replication-deficient adenoviral vector into the human embryonic kidney cell, wherein the replication-deficient adenoviral vector comprises an adenoviral genome deficient in the at least one essential gene function of the E1, E2A, and/or E4 regions, and

(c) maintaining the human embryonic kidney cell to propagate the replication-deficient adenoviral vector.

10. The method of claim 9, wherein at least one non-adenoviral gene product complements in *trans* for a deficiency in the E1A region of an adenoviral genome.

11. The method of claim 9, wherein at least one non-adenoviral gene product complements in *trans* for a deficiency in the E4 region of an adenoviral genome.

12. The method of claim 11, wherein at least one non-adenoviral gene product complements in *trans* for a deficiency in E4-ORF6 of an adenoviral genome.

13. The method of claim 9, wherein at least one non-adenoviral gene product is a viral protein.

14. The method of claim 9, wherein at least one non-adenoviral gene product is a cellular protein.

15. The method of claim 9, wherein the human embryonic kidney cell is a 293 cell.